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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------|-------------|----------------------|---------------------|------------------|
| 09/940,034 | 08/27/2001 | Mikhail Boroditsky | ATT-027PUS | 4894 |
| 22494 | 7590 | 08/10/2005 | EXAMINER | |
| DALY, CROWLEY, MOFFORD & DURKEE, LLP | | | PAYNE, DAVID C | |
| SUITE 301A | | | ART UNIT | |
| 354A TURNPIKE STREET | | | PAPER NUMBER | |
| CANTON, MA 02021-2714 | | | 2638 | |

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/940,034 | BORODITSKY ET AL. | |
| | Examiner | Art Unit | |
| | David C. Payne | 2638 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,8 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 2, 3, 8 and 9 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsushima et al. US 5,600,466 (Tsushima) in view of Augustsson US 6473540 B1 (Augustsson).

Re claim 2, 3, 8 and 9 Tsushima disclosed

A method of providing high connectivity communications over an optical ring network operating in photonic time slots, comprising the steps of:

generating a set of serial packets (*Figures 4a – 4f*), where each packet in said set is at a different wavelength and occupies a time slot of said time slots (which illustrated in *Figures 4a – 4f*) are aligned at specific time slots (0, T, 2T, ...);

stacking said set of serial packets to form a first composite packet to superimpose said packets within a time slot of said time slot to form a first composite packet (*Figures 4a – 4f*);

employing an optical crossbar switch [*Figure 7 (element 15) and alternative embodiment Figure 8*

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(*elements 33 and 34*)] of a first node of a core ring (*103 of Figure 16*) of said ring network to add said first composite packet into an empty time slot of a core ring of said network dropping said first composite packet (*21 of Figure 7 or 8*) as in a second node of said core ring of said ring network with second node is a destination node of said first composite packet, serializing said first composite packet at said second node into a received serial stream of packets; and distributing at least one packet of said received serial stream of packets.

Tsushima disclosed the dropping of a plurality of wavelength packets in Figure 7 or selectively from any of the set of wavelengths in Figure 8, but not dropping the packets at a particular time slot across all the wavelengths. It would have been obvious to one of ordinary skill in the art at the time of invention that one could combine the teachings of these two embodiments to simultaneously drop packets from all the wavelengths as a unit by just replicating the receivers of Figure 7 across all wavelengths. One is motivated as such so as to simultaneously receive packets from all stations at once. (As regarding claims 38 and 56), Tsushima disclosed a plurality of lasers generating a plurality of continuous wave lights at the Head station which are then modulated with information at the terminal stations for distribution around the ring not a single tunable laser. However, using separate lasers at the head station for the advantages as discussed, Tsushima was aware and discussed tunable lasers as an alternative, see cols./line(s): 1/60-67. It would have been obvious to one of ordinary skill in the art at the time of invention to use a single tunable laser to reduce the number of components in the head station. Tsushima disclosed a WDM demultiplexer, 13 of Figure 7.

Tsushima does not disclose a circulator and reflectors coupled with the demultiplexer.

Augustsson disclosed a demultiplexer coupled to a circulator and a plurality of reflectors (Figure 1). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Augustsson structure in the Tsushima invention since reflectors allow signals to travel in the reverse direction for coupling in multiplexer/demultiplexer along with a circulator which is a well known directional coupling device which prevents signals from reflecting back to the input.

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Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp


David C. Payne
Patent Examiner
AU 2638